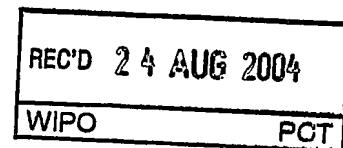




**Patent Office
Canberra**

I, JULIE BILLINGSLEY, TEAM LEADER EXAMINATION SUPPORT AND SALES hereby certify that annexed is a true copy of the Complete specification in connection with Application No. 2004200617 for a patent by CTECH EQUIPMENT PTY. LTD as filed on 17 February 2004.

I further certify that the above application is now proceeding in the name of CTECH CLOSURES PTY LTD pursuant to the provisions of Section 113 of the Patents Act 1990.



WITNESS my hand this
Twelfth day of August 2004

**JULIE BILLINGSLEY
TEAM LEADER EXAMINATION
SUPPORT AND SALES**



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AUSTRALIA

PATENTS ACT 1990

COMPLETE SPECIFICATION

FOR A STANDARD PATENT

ORIGINAL

Name of Applicant: **CTECH EQUIPMENT PTY LTD**

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Invention Title: **Closure Device for a Container**

Details of Associated Provisional Application No. 2003900678 dated 17 February, 2003

The following statement is a full description of this invention, including the best method of performing it known to me/us:-

FIELD OF THE INVENTION

This invention relates to closures for containers, and more particularly to press to open type closures for dispensing flowable substances from containers.

BACKGROUND TO THE INVENTION

5 Any discussion of the prior art throughout the specification should in no way be considered as an admission that such prior art is widely known or forms part of common general knowledge in the field.

10 Press to open type closures are known and examples of this type of closure are disclosed in US Patent Nos. 4,776,501 and 6,283,333. Typically, the closure comprises a body adapted for attachment to a container and a lid which is pivotably mounted to the body. The lid is movable between a closed, sealing position and an open, dispensing position. The body of the closure has an orifice which, when the lid is in the open position, allows the free flow of the product from the orifice and through an exit channel in the cap lid. The orifice in the body is designed so that when the cap lid is in the closed position a sealing means on the cap lid is brought into close contact with the orifice in the cap body thereby sealing the container.

15 Press to open closures are made in a variety of sizes depending upon the intended application and the size of the container to which the closure is to be fitted. With known closures, the diameter of the cap lid is only slightly smaller than the body so as to neatly fit within the body. This approach necessitates that the size of the cap lid must vary for each closure size and requires that a separate cap lid mould be made in order to produce the cap lid for each cap body. This adds to the complexity and cost of manufacture when producing a range of closures of varying sizes.

20 It is therefore an object of the present invention to overcome or ameliorate at least one of the disadvantages of the prior art, or to provide a useful alternative.

SUMMARY OF THE INVENTION

25 A first aspect of the present invention provides a set of press to open type closures for attachment to containers of varying neck sizes, the set of closures including a first closure for fitment to a first container of a first neck size and a second closure for fitment to a second container of a second neck size, said first closure including a body adapted for fitment to said first container and a lid pivotably mounted to said body, said

second closure including a body adapted for fitment to said second container and a lid pivotably mounted to said body, wherein said lids fit both the first and second closures.

A second aspect of the invention provides a press to open type closure for a container, said closure including a body adapted for mounting to the container, said body including a lower skirt for fitment over a neck of the container and an upper dispensing portion adapted for pivotably mounting a lid, wherein the outer diameter of skirt is greater than the outer diameter of the dispensing portion.

Advantageously, the present invention avoids the cost of additional cap lid moulds and also reduces the quantity of material used in the cap body and cap lid.

Unless the context clearly requires otherwise, throughout the description and the claims, the words 'comprise', 'comprising', and the like are to be construed in an inclusive sense as opposed to an exclusive or exhaustive sense; that is to say, in the sense of "including, but not limited to".

BRIEF DESCRIPTION OF DRAWINGS

A preferred embodiment of the invention will now be described, by way of example only, with reference to the accompanying drawings in which:

Fig. 1 is a cross-sectional view of a known press to open type closure, illustrated in an open position;

Fig. 2 is a top plan view of a closure body according to a preferred embodiment of the present invention;

Fig. 3 is a side elevation of the closure body depicted in Figure 2;

Fig. 4 is a cross-sectional view of a closure body according to a preferred embodiment of the invention; and

Figs. 5a to 5d are a series of views of a closure according to the present invention.

DETAILED DESCRIPTION OF THE INVENTION

Fig. 1 illustrates a known press to open type closure 1 for fitment to a container. The closure comprises a body 2 and a lid 3 pivotably mounted to the body. The body 2 features a lower skirt 4 with a mounting portion 5 adapted for fitment to the neck of a container. The body further includes an upper dispensing portion 6 with an orifice 7 through which flowable material passes when being dispensed from the container. The lid 3 is pivotably mounted in the dispensing portion of the body of the closure and is movable between a closed, sealing position and an open, dispensing position as shown.

Referring to Figs. 2 and 3, a closure body 10 according to a preferred embodiment of invention is depicted. Typically, the body of the closure is moulded from suitable plastics material. The body 10 includes a skirt 11 which in use fits over the neck of the container. The body further includes a dispensing portion 12 featuring an orifice 13 through which the flowable substance passes when being dispensed from the container. The dispensing portion further includes a recess 14 for receiving a complementary cap (not shown), with the lid engaging within the recess with a snap fit. A pair of spaced apart flanges 15a, 15b are provided in the recess 14 for supporting the pivoting mounting of the lid.

The body of the closure is adapted for fitment to the container. In the embodiment depicted in Fig. 4 body of the closure is adapted to be threadably mounted to a complimentary threaded neck of a container. More particularly, the skirt 11 includes a mounting portion 17 comprising an internal threaded section 18 for mounting to a complementary threaded section on the neck of a container. However, it is to be noted that the body of the closure may be adapted to attach to the neck of a container by other means such as, for example, a snap fit engagement such as in the prior art closure illustrated in Fig. 1.

In accordance with one aspect of the present invention, the outer diameter of the skirt 11 is greater than the outer diameter of the dispensing portion 12, with a tapered intermediate wall 16 joining the skirt 11 to the reduced diameter dispensing portion 12.

In a particular embodiment of the invention, the skirt section of the body of the closure is sized according to the size of the neck of the container to which it is to be fitted. The dispensing portion of the body is common to all sizes of closure and hence a single size of lid can be produced to fit all sizes of closure. The skirt 11 of the body of the closure is sized according to the size of the neck of the container to which the closure is to be fitted. In accordance with an aspect of the present invention, the set of closures comprises two or more closures for fitment to containers of varying neck diameters. In one example, the set comprises two closures with a first closure adapted to fit a container with a 24 mm nominal neck diameter and a second closure adapted to fit a container with a 28 mm nominal neck diameter. The skirt portion of the body of the closure is sized according to the size of the neck of the container to which the closure is to be fitted, whilst the dispensing portion 12 is common to all of the closures within the set. In this way, it is only necessary to manufacture one lid to fit a range of closure sizes.

The set of closures may comprise two, three, four or more closures adapted for fitting to a corresponding number of containers of varying neck sizes.

Fig. 4 illustrates the lid recess 14 in the dispensing portion of the body of the closure.

5 Figs. 5a, 5b and 5c show the lid 20 in a closed, sealing position, whilst Fig. 5d shows the lid 20 in an open, dispensing position.

10 The lid 20 is adapted to be received within the recess 14 of the dispensing portion 12. The upper surface of the lid 20 includes an indent 21. By applying pressure to the indent the lid is caused to pivot between its closed position and its open position. The lid includes a dispensing port 22 which communicates with the orifice 13 to dispense the flowable substance from the container. Typically, the lid is moulded from suitable plastics material.

15 Advantageously, as a result of the present invention, it is possible to produce a range of closures for fitment to containers of varying neck sizes wherein the lid is the same for all closure sizes. This significantly reduces the complexity and cost of production in producing a range of closure sizes.

20 Although the invention has been described with reference to specific examples, it will be appreciated by those skilled in the art that the invention may be embodied in many other forms.

THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:-

1. A set of press to open type closures for attachment to containers of varying neck sizes, the set of closures including a first closure for fitment to a first container and a second closure for fitment to a second container, said first closure including a body adapted for fitment to said first container and a lid pivotably mounted to said body, said second closure including a body adapted for fitment to said second container and a lid pivotably mounted to said body, wherein said lids fit both the first and second closures.
- 5 2. A press to open type closure for a container, said closure including a body for mounting to the container, said body including a skirt for fitment over the mouth of the container and a dispensing portion adapted for pivotably mounting a lid, wherein the outer diameter of skirt is greater than the outer diameter of the dispensing portion.
- 10

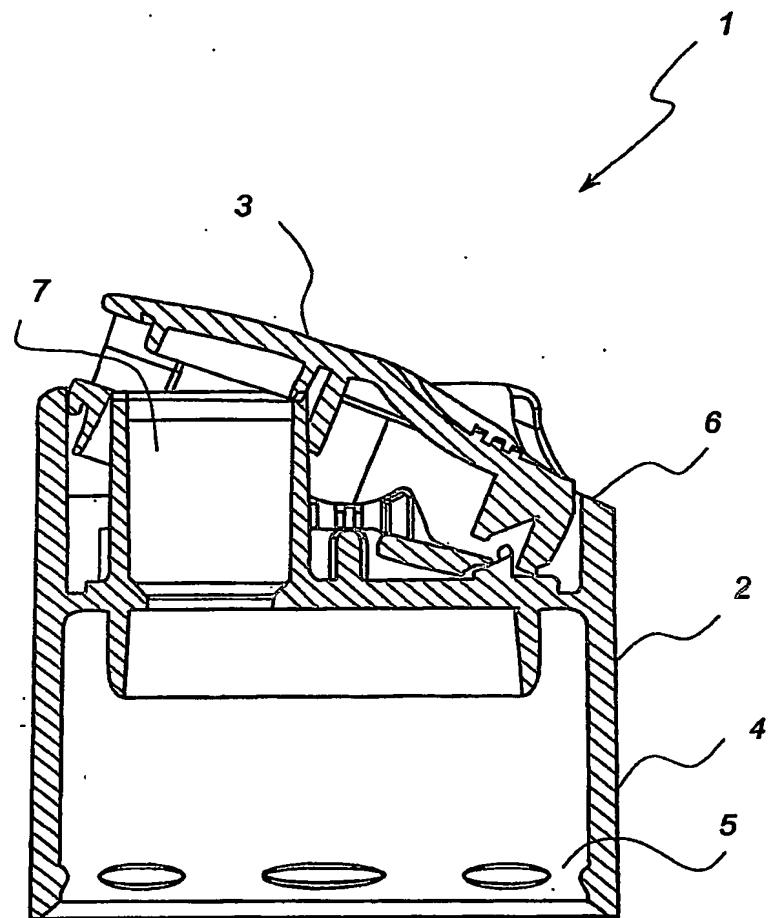


Figure 1

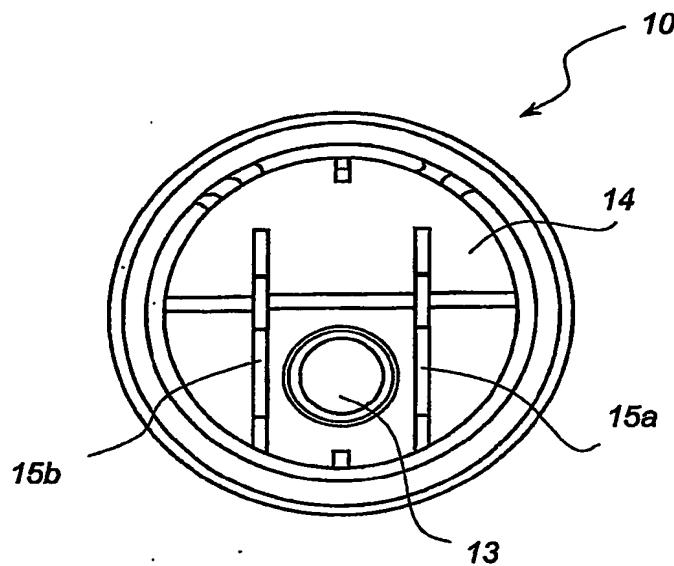


Figure 2

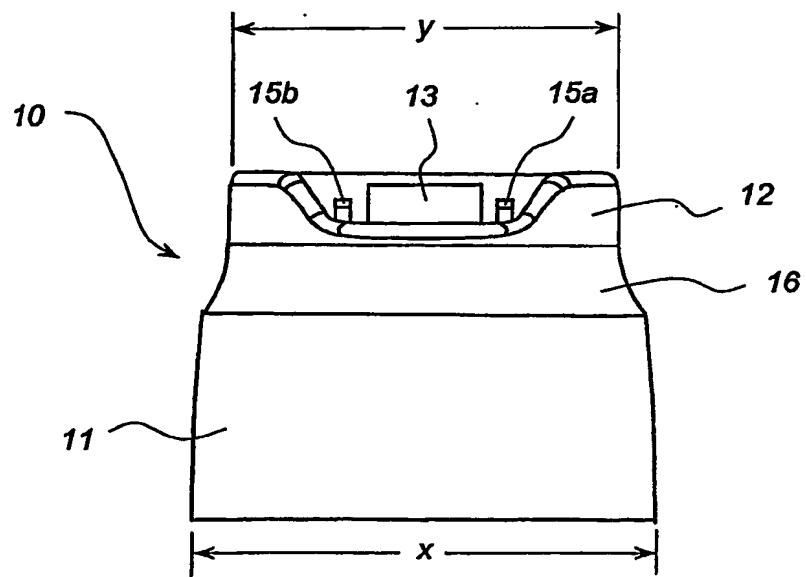


Figure 3

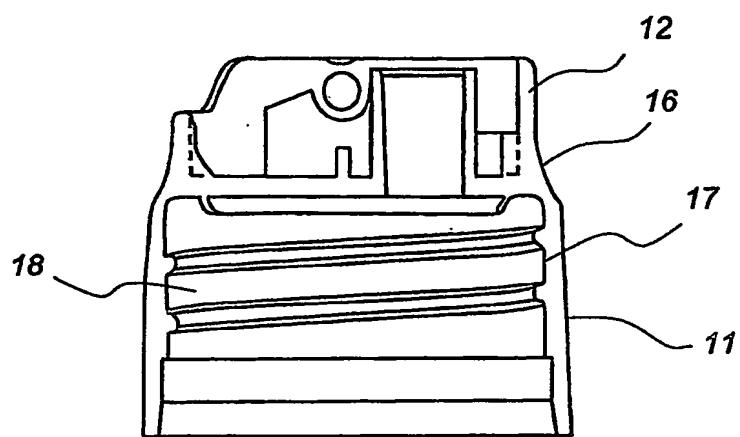


Figure 4

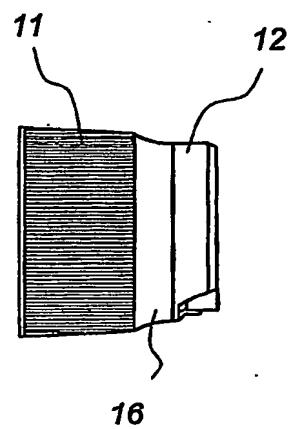


Figure 5a

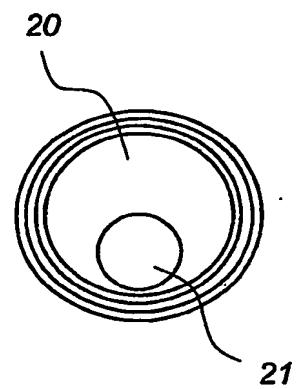


Figure 5b

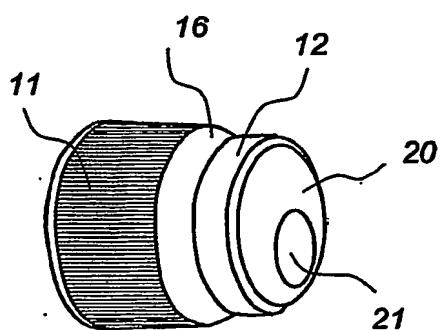


Figure 5c

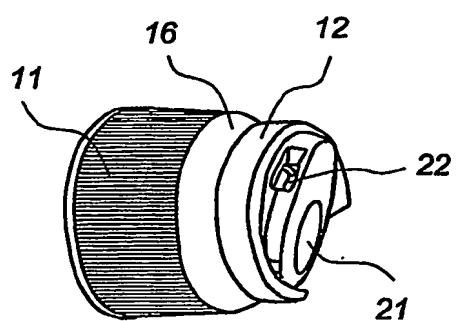


Figure 5d

ABSTRACT

This invention relates to closures for containers, and more particularly to press to open type closures for dispensing flowable substances from containers.

A first aspect of the present invention provides a set of closures for attachment to containers of varying neck sizes, the set of closures including a first closure for fitment to a first container of a first neck size and the second closure for fitment to a second container of a second neck size, said first closure including a body adapted for fitment to said first container and a lid pivotably mounted to said body, said second closure including a body adapted for fitment to said second container and a lid pivotably mounted to said body, wherein the lid may fit both the first and second closures.

A second aspect of the invention provides a press to open type closure for a container, the closure including a body (10) for mounting to the container, the body including a skirt (11) for fitment over a mouth of the container and a dispensing portion (12) for pivotably mounting a lid (20), wherein the outer diameter of skirt is greater than the outer diameter of the dispensing portion.